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Indian Standard

GLOSSARY OF TERMS AND DEFINITIONS FOR DREDGERS

1. Scope — Specifies the terms and definitions relating to dredging fleet.

2. General Concepts Pertaining to Dredgers

2.1 *Dredger Dredge* — A vessel or water craft for dredging.

2.2 *Dredging* — Changing the dimensions of basins by extracting or shifting the soil in the interests of navigation.

2.3 *Dredging Caravan* — A dredge and its service vessels ensuring extracting, transportation and storage of the soil.

2.4 *Dredging Facility* — A facility for loosening, separating from the bottom and lifting the soil.

2.5 *Dredging Fleet* — A totality of dredgers, dredging means and their service vessels.

2.6 *Gantry* — A rigid structure for accomodating the elements of the ladder elevator.

2.7 *Ladder* — A structure carrying the dredging facility of suction dredgers and multibucket dredgers.

2.8 *Ladder Elevator* — A device for changing the position of the dredging facility ladder and fixing it in a determined position.

2.9 *Non-Self-Propelled Dredger*

2.10 *Pile Facility* — A facility comprising work pile and mechanisms for their moving and fixing.

2.11 *Self-Propelled Dredger* — A dredger having propelling devices for an independent movement.

2.12 *Soil Discharging Facility* — A facility for discharging the extracted soil.

2.13 *Swell Compensator* — A facility and system ensuring a dredger's operation with certain waves at a section of dredging.

2.14 *Technological Equipment* — A complex of devices and systems of a dredger for the accomplishment of dredging.

3. Basic Parameters of Dredgers

3.1 *Contract Output* — The output of dredger under certain conditions of operation stipulated in the contract between the manufacturer and the purchaser.

3.2 *Dipper Dredger Bucket Sweep* — The maximum distance from the bucket cutting edge to the axis of rotation of the platform with the dredging facility.

3,3 *Dipper Dredger Bucket Sweep from Side*

3.4 *Dredger Output; Output* — The amount of soil in a natural bed state extracted in a time unit.

3.5 *Frequency of Bucket Emptying* — The number of buckets emptying of a multi-bucket dredger in a time unit.

3.6 *Grab Sweep* — The maximum distance from the axis cf the grab suspension to the axis of rotation of the platform with the dredging facility.

3.7 *Grab Sweep from Side*

3.8 *Hopper Capacity* — The amount of soil in the hold of a barge or hopper dredger at a normal filling level.

3.9 *Length of Floating Pipeline*

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3.10 *Length of Pressure Pipeline*

3.11 *Maximum Depth of Dredging*

3.12 *Maximum Height of Soil Raising* — The maximum elevation of the point of raising of the soil (hydraulic mixture) above the water level.

3.13 *Minimum Depth of Dredging*

3.14 *Nominal Depth of Dredging* — The depth of dredging serving as a base at a bucket arrangement calculation end ensuring the work of a dradger with a design output.

3.15 *Range of Soil* — The distance from the place of raising the soil to the place of storage at the given position of the dredger.

Note — The term is inapplicable with a discharge of soil by barges and with hopper dredgers.

4. Bucket Arrangement

4.1 *Bucket* — A working member designed to cut and raise the soil.

4.2 *Bucket Arrangement* — An arrangement for raising the soil and transporting it to the place of discharge of bucket(s).

4.3 *Bucket Capacity* — The total volume of liquid in the bucket filled up to cutting edges of the bucket.

4.4 *Bucket Chain* — A chain consisting of buckets and connecting parts.

4.5 *Bucket Chain Loop* — A portion of the sagging chain at the lower bucket drum where the buckets participate in the cutting of the soil.

4.6 *Bucket Chain Pitch* — The distance between the centres of identical mounting holes of adjacent buckets.

4.7 *Bucket Chain Tightening Device* — A device with a drive to alter the length of the sagging portion of the bucket chain.

4.8 *Bucket Drive* — The complex of the bucket motor and the power transmission to the upper bucket drum.

4.9 *Bucket Motor* — The motor ensuring the rotation of the upper bucket drum.

4.10 *Bucket Roller* — A roller supporting the bucket chain on the frame or on the upper frame.

4.11 *Bucket Tower* — A metal structure for accommodation of bucket elements and the soil discharge facility of a dredger.

4.12 *Lower Tumbler* — The drum designed to support and guide the bucket chain.

4.13 *Monkey Frame* — An additional frame installed between the upper bucket drum and the axis of suspension of the dredging facility frame.

4.14 *Top Tumbler* — The drum designed to support and drive the bucket chain.

5. Controls and Monitoring, and Measuring Instruments

5.1 *Automated Control System of Dredging* — Instruments of the automated control and monitoring for the dredger's orientation, soil extraction and monitoring the auxiliary operations, aggregated into a control computer.

5.2 *Bucket Counter* — An instrument indicating the number of buckets which have passed the upper bucket drum of a multi-bucket dredger in a time unit.

5.3 *Dredging Depth Indicator* — An instrument indicating the distance from the lower edge of the dredging member to the water surface.

5.4 *Orientation System* — A complex of technical means ensuring the determination of the location of a dredger and its orientation on the dredged section.

5.5 *Output Indicator* — An instrument indicating the output and the amount of the dredged soil.

5.6 *Rope Meter* — An instrument indicating the length of the work rope heaved or paid out.

5.7 *Soil Meter* — An instrument indicating the soil content in the hydraulic mixture.

6. Dredging Pump Unit and the Loosening Facilities

6.1 *Agitator* — A device designed for loosening the soil from its natural bed state before extracting it with a dredger.

6.2 *Concentration of Hydraulic Mixture* — Ratio of the volume of soil *versus* the volume of hydraulic mixture.

6.3 *Cutter Agitator* — A mechanical agitator having a cutter for cutting member.

6.4 *Dredging Pump* — The pump to transport the hydraulic mixture.

6.5 *Hydraulic Agitator* — An agitator using the energy of water jets.

6.6 *Hydraulic Mixture; Pulp* — A mixture of soil with water or with water and air.

6.7 *In-Hull Pressure Pipeline* — A portion of the pressure pipeline located behind the dredging pump inside the hull of the dredger.

6.8 *In-Hull Suction Pipeline* — A portion of the suction pipeline located inside the hull of the dredger.

6.9 *Mechanical Agitator* — An agitator having a mechanical cutting member.

6.10 *Pipeline Swivel Joint* — A hinged or flexible joint of separate elements of the pipeline.

6.11 *Pressure Pipeline* — The pipeline through which the hydraulic mixture moves from the pump.

6.12 *Rotor Agitator* — A mechanical agitator having a cutting member in the form of buckets fixed rigidly on a rotor.

6.13 *Soil Receiver; Suction End* — A removeable end portion of the suction pipe designed for suction of the dredged soil.

6.14 *Submersible Dredging Pump* — A dredging pump located outside the hull of the vessel, below the water level.

6.15 *Suction Pipe* — The movable portion of the suction pipeline.

6.16 *Suction Pipeline* — The pipeline through which the hydraulic mixture approaches the dredging pump.

7. Methods and Facilities for Operative Movements

7.1 *Anchor Dredger* — A dredger whose operative movements are performed by pulling to the work anchors by means of winches.

7.2 *Anchor Handling* — A self-propelled vessel designed basically for placing and repositioning the work anchors.

7.3 *Anchor Handling Derrick* — A derrick on a dredger for placing and repositioning the work anchors.

7.4 *Bow Positioning Winch* — A winch for moving a dredger along the dredged section with the dredging facility forward.

7.5 *Longitudinal Method of Operative Movements* — A method of operative movement when a dredger moves along the section being dredged.

7.6 *Operative Movements* — The movements of a dredger in the operational area.

7.7 *Operative Movements by Means of Propellers*

7.8 *Pile and Anchor Dredger* — A dredger whose operative movements are performed by means of piles and work anchors.

7.9 *Pile Dredger* — A dredger whose operative movements are performed by means of piles only.

7.10 *Stern Positioning Winch* — A winch for moving a dredger along the dredged section with the dredging facility aft.

7.11 *Transverse Method of Operative Movements* — A method of operative movements when a dredger or dredging facility moves across the section being dredged.

7.12 *Travelling Winch; Side Winch* — A winch for moving a dredger across the dredged section.

7.13 *Work Anchor* — An anchor used for operative movement of a dredger.

7.14 *Work Pile* — A pile used for operative movements and fixation of a dredger.

8. Methods and Facilities for the Removal of Soil

8.1 *Bottom Discharge Opening* — Ports for the soil discharge through the soil hold bottom closed with a door or a valve.

8.2 *Chute* — A tray for the disposal of the soil by gravity.

8.3 *Direct Discharge of Soil* — A disposal of the soil by means of the dredging facility of a dredge (without special means of removal) or by means of the flow in the basin.

8.4 *Discharge Pipeline* — The pipline through which the pulp is transported

8.5 *Disposal of Soil by Barges* — Transportation of the soil, extracted in dredging, by barges.

8.6 *Disposal of Soil by Chutes* — Transportation of the soil, extracted in dredging, through a chute (s) to the place of storage.

8.7 *Disposal of Soil with Conveyors* — Transportation of the soil, extracted in dredging, with the soil removal conveyor(s) to the place of storage.

8.8 *Door-Lifting Device* — A device for lifting, lowering and fixing the doors closing bottom discharge ports.

8.9 *Floating Discharge Pipeline*

8.10 *Ground Pipeline*

8.11 *Hopper*

8.12 *Hopper Barge* — A vessel for the transportation of the soil extracted in dredging.

8.13 *Hopper Dredger* — A self-propelled dredger carrying the soil in the hold(s) to the place of storage.

8.14 *Pendant Pipeline* — An overhanging part of the pressure pipeline.

8.15 *Soil-Discharging Nozzle* — A tapered nozzle located at the end of the pressure pipeline.

8.16 *Soil Removal Conveyor* — A conveyor for the disposal of the soil extracted in dredging.

8.17 *Soil Valve* — A device for altering the direction of soil movement from the soil well.

8.18 *Sump* — A well inside the bucket tower or in the hull of a multi-bucket dredger for storage of the extracted soil.

9. Type of Dredgers Depending on the Power Unit

9.1 *Diesel Dredger* — A dredger having a diesel engine for the main one.

9.2 *Diesel-Electric Dredger* — A dredger having an electric power transmission from the main engine.

9.3 *Diesel-Hydraulic Dredger* — A diesel dredger having a hydraulic power transmission from the ma n engine.

9.4 *Dredger Main Engine; Main Engine* — The engine producing the power for dredging and discharging of the soil.

Note — The main engine may also supply power to other users.

9.5 *Electric Dredger* — A dredger having an electric motor fed from the shore main, for the main engine.

9.6 *Electric-Hydraulic Dredger* — An electric dredger having a hydraulic power transmission from the main engine.

9 7 *Gas Turbine Dredger* — A dredge having a gas turbine for the main engine.

9.8 *Steam Dredger* — A dredger having a steam turbine or a steam piston engine for the main one.

10. Types of Dredgers Depending on the Methods of Soil Extraction or Treatment

10.1 *Air-Lift Dredger* — A dredger extracting the soil with an air-lift or gas lift.

10.2 *Bed Wash-Out Dredger* — A water craft ensuring dredging by loosening the soil with water jets.

10.3 *Bucket Dredger* — A dredger extracting the soil with buckets forming a bucket chain.

10.4 *Grab Dredger* — A dredger extracting the soil with a grab.

10.5 *Jet Dredger* — A dredger extracting the soil with a jet pump.

10.6 *Rock-Crushing Dredger* — A water craft for crushing rocks under the water.

10.7 *Rock-Crushing Dredger with a Forced Motion* — A rock-crushing dredger with a chisel as an operating unit loosening the soil through a forced motion actuated by a power source.

10.8 *Rock-Crushing Dredger with a Freely Falling Chisel* — A rock-crushing dredger with a chisel as an operating unit, falling on loosened rock under gravity only.

10.9 *Rock-Drilling Dredger* — A water craft for drilling rocky soil under water.

10.10 *Single-Bucket Dipper Dredger* — A dredger extracting the soil with a bucket on a boom.

10.11 *Suction Dredger* — A dredger extracting the soil by suction with an impeller dredging pump.

EXPLANATORY NOTE

The basic aim of this standard is to give clear enough definitions for every term to be equally understood by all. The application of those synonymous of the standardized terms, which are not included in the standard shall be prohibited. Certain standardized terms in the standard are provided with their abridged versions which may be used in the cases eliminating a possibility of their misinterpretation.

If the essential features of a notion are contained in the literal meaning of the term, its definition is not stated.

Combinations of the terms stated in the standard are allowed for application. The terms may contain additional elements reflecting the field of application and the purpose of the vessels of dredging fleet.

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